

December 5, 2005



U.S. Department  
of Transportation

400 Seventh Street, S.W.  
Washington, D.C. 20590

**Pipeline and  
Hazardous Materials  
Safety Administration**

DOT-SP 10019  
(NINTH REVISION)

EXPIRATION DATE: October 31, 2009
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(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Structural Composites Industries  
Pomona, CA
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the manufacture, mark, sale and use of a non-DOT specification fiber reinforced plastic (FRP) full wrapped composite (FC) cylinder conforming with DOT FRP-1 Standard, except as specified herein, for the transportation in commerce of the materials authorized by this special permit. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302a(a)(1) and 175.3 in that non-DOT specification cylinders are not authorized, except as specified herein.

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5. BASIS: This special permit is based on the application of Structural Composites Industries dated September 7, 2005 submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Proper Shipping Name/ Hazardous Material Description</b>	<b>Hazard Class/ Division</b>	<b>Identi- fication Number</b>	<b>Packing Group</b>
Air, compressed(with up to 39 percent by volume oxygen content)	2.2	UN1002	N/A
Heptafluoropropane	2.2	UN3296	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Oxygen, compressed	2.2	UN1072	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification fiber reinforced plastic (FRP) full wrapped composite (FC) cylinder made in accordance with SCI's specification SCI Special Report 88778, on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA) and conforming with DOT FRP-1 Standard, (178.AA), Revision 2 dated February 15, 1987, except as follows:

§ 178.AA-4 Duties of Inspector.

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(b) (Add) In lieu of testing for filament material properties by the special permit holder, a certificate by the filament manufacturer is acceptable provided that the procurement document specifies strength and quality requirements and that the supplied material is certified to those requirements.

\* \* \*

§ 178.AA-5 Material.

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(a) Aluminum liner must be 6061 alloy and T6 temper or 6010 alloy subjected to a solution heat treatment and aging appropriate for the alloy as indicated in the application.

(b) Filament material must be commercial type-S fiberglass and Kevlar 49 conforming with Aerospace Material Specification (AMS) 3901. Filaments must be tested in accordance with ASTM D 2343 (strand test) and ASTM D 3317 (denier test). Strand strength and denier must be as follows:

(1) Strand strength = 450,000 min.

(2) Denier = Not less than 90 percent of the nominal value specified in AMS 3901.

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§ 178.AA-9 Thermal treatment.

(a) The aluminum alloy liners must be solution heat treated and aged as follows after all forming operations and prior to pressurizing and overwrapping.

(1) Alloy 6061 liners must be solution heat treated and aged to the T-6 temper.

(2) Alloy 6010 liners must be solution heat treated and aged as appropriate for the alloy indicated in the application.

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§ 178.AA-12 Destructive tests.

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(b) Applies except that the rate of cycling may not exceed 10 cycles per minute.

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§ 178.AA-18 Design qualification tests.

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(d) Applies except that the rate of cycling may not exceed 10 cycles per minute.

b. TESTING - Each cylinder must be reinspected and hydrostatically retested every three years in accordance with § 180.205, as prescribed for DOT 3HT specification cylinders, except that the rejection elastic expansion does not apply and the permanent volumetric expansion may not exceed 5 percent of the total volumetric expansion at test pressure. Retest dates must be stamped on the exposed metallic surface of the cylinder neck or marked on a label securely affixed to the cylinder and overcoated with epoxy near the original test date. Reheat treatment or repair of rejected cylinders is not authorized.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a package covered by this special permit, may reoffer it for transportation provided no modifications or changes are made to the package and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this special permit must be marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

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- e. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.
  - f. Cylinders may not be used for underwater breathing purposes.
  - g. A cylinder is not authorized 15 years after the date of manufacture.
  - h. A cylinder that has been subjected to fire may not be returned to service.
  - i. Cylinders used in oxygen service must conform with the provisions of § 173.302a(a)(5).
  - j. The cylinder must be packaged in accordance with § 173.301(a)(9).
  - k. Transportation of oxygen by aircraft is only authorized when in accordance with § 172.102(c)(2) Special Provision A52 and § 175.85(h) and (i).
  - l. Packagings permanently marked 'DOT-E 10019', prior to October 1, 2007 may continue to be used under this special permit for the remaining service life of the packaging or until the special permit is no longer valid. Packagings marked on or after October 1, 2007 must be marked 'DOT-SP 10019'.
  - m. Shipping papers displaying 'DOT-E 10019' may continue to be used until October 1, 2007, provided the special permit remains valid.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or aircraft used to transport packages covered by this special permit. The shipper must furnish a current copy of this special permit to the air carrier before or at the time the shipment is tendered.

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11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, Parts 171-180.
- o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when the special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)- 'The Hazardous Materials Safety and Security Reauthorization Act of 2005' (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term 'exemption' to 'special permit' and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

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12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.

A handwritten signature in blue ink, appearing to read "R. Ryan Taylor", is written over a faint, circular official stamp.

for Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm) Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: KFW/sln

12/5/2005

<b>Company Name City / State</b>	<b>Application Date</b>	<b>Issue Date</b>	<b>Expiration Date</b>
Structural Composites Industries Pomona, CA	Sep 07, 2005	Dec 05, 2005	Oct 31, 2009